Remarks

In view of the above amendments and the following remarks, reconsideration and further examination are requested.

Claims 1-9, 11 and 12 have been amended to make a number of editorial revisions. These revisions have been made to place the claims in better U.S. form. None of these amendments have been made to narrow the scope of protection of the claims, nor to address issues related to patentability and therefore, these amendments should not be construed as limiting the scope of equivalents of the claimed features offered by the Doctrine of Equivalents.

Claims 1-3, 9 and 10 have been rejected under 35 U.S.C. §102(e) as being anticipated by Kenny (US 6,586,722). Claims 4-8, 11 and 12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Kenny. These rejections are respectfully traversed for the following reasons.

Claim 1 is patentable over Kenny, since claim 1 recites a fiber Bragg grating strain sensor having, in part, a fiber Bragg grating fastened to a strain sensor member a strain sensing section, the fiber Bragg grating having a first end oriented in a longitudinal direction, a second end oriented in a lateral direction perpendicular to the longitudinal direction, and a fiber axis forming one quarter of a circular arc between the first end and the second end. Kenny fails to disclose or suggest a fiber Bragg grating as recited in claim 1.

Kenny discloses a number of different configurations of strain sensors which utilize optical fiber Bragg gratings. In one configuration, a first fiber Bragg grating 1A is positioned to be perpendicular with a second fiber Bragg grating 1B. The first and second fiber Bragg gratings 1A and 1B are connected by a connection length of optical fiber 6 bent at a right angle. The fiber Bragg gratings 1A and 1B have different Bragg wavelengths such that different signals will be transmitted depending on which of the fiber Bragg gratings 1A and 1B detects stress. (See column 3, lines 57-63 and Figure 8(c)). However, it is clear from Figure 8(c) that both of the first and second fiber Bragg gratings 1A and 1B are linear shaped and neither of them have a first end oriented in a longitudinal direction, a second end oriented in a lateral direction perpendicular to the longitudinal direction, and a fiber axis forming one quarter of a circular arc between the first end and the second end. Further, it is apparent that none of the other configurations of the strain sensors of Kenny either disclose or suggest a fiber Bragg grating as recited in claim 1.

One of the benefits that the present invention is that the one quarter of a circular arc formed between the first end and the second end of the fiber Bragg grating enhances its sensitivity to strain in the longitudinal direction. Since all of the fiber Bragg gratings in Kenny are linear, they do not have this benefit.

Because of the above mentioned distinctions, it is believed clear that claims 1-12 are patentable over Kenny. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1-12. Therefore, it is submitted that claims 1-12 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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